

**Technology Transfer:  
Distributed Real-Time Hurricane Wind Analysis  
System  
Team to Subject Reference Database Information  
Access Team**

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**Proposal Theme: Networking Technology Transfer**

**Funding Received –FY 2001 \$15K**

## Performance

### Deliverables:

1. Establish transfer of technology employed by HRD Database Design team and HRD Java Developers to NOAA Miami Regional Library Subject Database Management Team
2. Prototype database for use in information access by NOAA Scientific Staff
3. Prototype database for use in Data and Document Recovery

URL will be <http://www.aoml.noaa.gov/general/lib>

Product will be available at the above referenced URL in late June, 2002  
A prototype database of subject literature on Tilapia Aquaculture will be Available, to be expanded to other subject literature databases.

### Future Milestones:

Library will upgrade the Library hardware  
HRD's Java Developer/System administrator and DBA will Install Oracle8i On library hardware  
HRD's DBA and Java developers will help library staff to use HRD's JAVA Packages.

## Project Summary

To date the project has accomplished the following:

The NOAA Miami Library team has provided the following to the HRD team

1. List of MsSql limitations
2. Copy of MsSql Table design
3. List of the types of documents that the library wants to store
4. List of the types of documents to search
5. Library Team has attended Oracle Courses in
  - Process and Function Modeling
  - Data Modeling: Develop Depth to Your Models
  - Data Modeling: Create Basic Models
  - Oracle PL/SQL Basics
  - Oracle SQL Specifics: Retrieving and Formatting Data
  - Oracle SQL Specifics: Creating and Managing Database Objects
  - Develop PL/SQL Program Units Curriculum

The HRD team has helped the library learn these basics and design the library database ( currently in process )

The prototype subject reference database design, including front-end interface, Query, update and delete tools will be operational in collaboration with the HRD Design Database team using the HAVA front end access to the database. The Windowing capabilities of the HRD application encapsulated in the JAVA Hrd.awt package, database actions (queries, insertions and updates) and Retrieval of ASCII, gif and Jpeg files will be utilized in the prototype scientific Subject databases of the Library.

## **Project Summary Continued**

### Lessons learned

Learning the basic database functions , Oracle and PL/SQL take quite a bit of time. An ample period of time to study should be set aside from the regular work time, to provide for intense study and concentration.

### Recommendations for others considering similar work/partnership:

Communication in terms that both parties understand is necessary to Convey technical terms of Computer Specialists and Library Database Specialists. Mutual commitment to learning “terms of art” exists for both Parties.

### Possibility for technology transfer:

The Library Team believes that other NOAA teams working with full text data will be able to use this type of database to disseminate and access data in full text formats. Eg. Corals Group, Acquaculture, Ocean Exploration, MPA's

The HRD team has helped to package their technology, with minor modifications to be applied to the Library Subject Database. The existing JAVA application developed by HRD consists of a web of JAVA components That allow HRD atmospheric scientists to interact with the Observation database residing in an Oracle 8i database management System (DBMS). Some of these components are truly **fully reusable** and can be used by **any** client applications that need to interact with an Oracle database. The specific reusable JAVA packages are:

- Windowing capabilities of the HRD application are encapsulated in the JAVA hrd.awt package
- Database actions (data queries, insertions, and updates) are encapsulated in the JAVA hrd.db package
- Retrieval of ASCII, gif, and Jpeg files are encapsulated in the JAVA hrd.file package

## Expenditure Summary

### Budget Summary

#### Cost Category:

	Amount	Description	FY2001	FY02	FY03
Personnel	\$15K	Time HRD team to Ensure collaboration And transfer of prototype Technology to NOAA Miami Library Team	\$15K	\$0	\$0
Contracts	\$0		\$0	\$0	\$0
Rents,etc.	\$0		\$0	\$0	\$0
Supplies Materials	\$0		\$0	\$0	\$0
Training and Travel	\$0		\$0	\$0	\$0
Other	\$0		\$0	\$0	\$0
Total	\$15K		\$15K		

## **Future Direction**

This project can be expanded to other full text applications, as indicated In the Project Summary Application: Ocean Exploration, Corals, Acquaculture, Full text NOAA Technical Reports and other NOAA Publications.

The results of this project can be disseminated among the NOAA Library group of 26 Libraries, as well as NOAA IT divisions concerned with full text databases.

NOAA/LISD may provide funding for Unix hardware and software upgrades, however the costs of Oracle software are yet to be covered by any NOAA division.

Partnerships within the AOML Laboratory employing Oracle software are being sought. Partnerships with the NOAA Charleston Coastal Services Laboratory may be developed.

Recommendations for continued funding are welcomed.